

Professor explores customer reaction to robot service in restaurants

School of Community Resources and Development faculty member evaluates impact of technology on customer behavior

By Ayrel Clark-Proffitt, ASU News
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Robots in food service are a fairly recent development in the Phoenix metropolitan area.

Arizona State University deployed the first fleet of adorable [Starship Technologies' autonomous food-delivery robots](#) in 2020. Chennai Fusion Grill in Chandler, Arizona, introduced its [robot server Shiela](#) during the COVID-19 pandemic for contactless service. Thai Recipe Bistro in Phoenix now has a cat-robot server that blinks and smiles. Several other chains have introduced the concept as well.

Locally, these robot servers still receive a lot of attention on social media. But globally, [the trend](#) has been on the rise for a couple of decades.

[Jong-Hyeong Kim](#), an associate director at [Hainan University–Arizona State University International College](#) and associate professor in the [School of Community Resources and Development](#), remembers his first experience with a service robot. It was at a fried chicken restaurant in Seoul, South Korea, where a robot delivered drinks, napkins and food to his table.

“The robots were not human-like and did not communicate with customers, but their presence was notable,” he said.

Kim’s research focuses on customer experience and consumer behavior. His [recent work](#), published in the Journal of Hospitality and Tourism Technology, explored the impact of the perceived novelty and innovativeness of restaurant-service robots on customer loyalty in the Republic of Korea, one of the “fastest-growing markets for robot-service restaurants.”

“We chose South Korea because in many casual dining restaurants, cafes and family restaurants, service robots are now part of the regular service process rather than a novelty. This environment

allowed us to examine customer responses in a setting where robot service is already familiar and embedded in everyday hospitality operations,” he said.

Read on to learn more about Kim’s research.

Note: Answers may have been edited for length and/or clarity.

Question: How long has the modern version of robot servers existed?

Answer: While robots appeared in restaurants as early as the 1980s, they were mostly experimental or used for demonstration purposes. The modern generation of robot servers began to emerge in the early 2000s, when advances in autonomous navigation and sensor technology made it possible for robots to operate more reliably in real service environments. These newer robots were designed to perform practical tasks, such as cooking and food delivery. Japan is often cited as an early leader in deploying service robots in hospitality settings, reflecting both its long-standing investment in robotics and its openness to testing new technologies in commercial spaces.

Q: Your research talks about the novelty and coolness of these robots. Why does the coolness factor matter? How can restaurants and other hospitality businesses balance the coolness of new technology with the need for human interaction and empathy?

A: The coolness factor matters because novelty alone does not always lead to positive reactions. People tend to respond better to new technology when it feels interesting or enjoyable, rather than simply different. In robot-service restaurants, robots are highly visible and still unfamiliar to many customers, so being perceived as “cool” can strongly influence how the overall dining experience is evaluated. At the same time, restaurants need to balance novelty with genuine human interaction. One practical approach is to use robots for routine tasks, such as delivering food. When robots support rather than replace human staff, technology can enhance the experience without losing the personal connection central to hospitality.

Q: How will novelty and coolness change over time as the robots proliferate and become more common?

A: As service robots become more common, their novelty will naturally fade. What once felt surprising may gradually become part of the everyday dining experience, much like self-service kiosks or mobile ordering systems. However, reduced novelty does not necessarily mean robots will lose their appeal. Over time, perceptions of coolness are more likely to depend on design, integration into the service environment and usefulness to customers.

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Jong-Hyeong Kim

Associate director at Hainan University–Arizona State University International College and associate professor in ASU's School of Community Resources and Development

Q: In your recent publication, you mention the differences in perception by culture as an area for future exploration. Why do you think culture might impact perceptions?

A: Culture plays an important role in shaping how people perceive service robots. In some contexts, robots may be associated with innovation, efficiency or progress, while in others they may raise concerns about reduced warmth, job displacement or the loss of personal interaction. Differences in technology comfort, service expectations and social norms can all influence how robots are received.

Q: Many restaurants in the United States and globally are small, independent establishments. What are some advantages of robot servers for these restaurants? What are some drawbacks?

A: For small, independently owned restaurants, robot servers can offer practical support, especially for routine tasks such as delivering food and assisting with simple kitchen work. In some cases, robots can also attract curiosity and attention, helping small restaurants stand out in competitive markets.

At the same time, there are clear drawbacks. The cost of purchasing and maintaining robot servers can be difficult for small businesses to absorb, and robots often lack the flexibility to respond to unexpected situations. Many customers choose small, independent restaurants because they value personal interaction. In these settings, relying too heavily on robots could reduce the sense of warmth and familiarity that shapes the dining experience.

As a result, robot servers are most effective when used selectively to support service, rather than replace the human interactions customers expect and appreciate.

The School of Community Resources and Development is part of the Watts College of Public Service and Community Solutions.

This story originally appeared on [ASU News](#).

Main image



Two Starship Technologies autonomous food-delivery robots cruise down the sidewalk next to a skateboarding student on the ASU Tempe campus. ASU deployed the first fleet of these robots in 2020. ASU photo

Text image(s)



Jong-Hyeong Kim